

### SEQUENCE LISTING

<110> Buck, Linda Axel, Richard

<120> ODORANT RECEPTORS AND USES THEREOF

<130> 0575/38586-B/JPW/ADM

<150> US 08/129,079 <151> 1993-10-05

<160> 98

<170> PatentIn version 3.0

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Ala Tyr Asp Arg Phe Val Ala Ile Cys His Pro Leu His Tyr Thr Val 50 60

Ile Met Ser Ser Trp Leu Cys Gly Leu Leu Val Leu Val Ser Trp Ile
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Ser Phe Cys Thr Glu Leu Lys Ile Pro Gln Phe Phe Cys Glu Leu Asn 100 105 110

Gln Val Ile His Leu Ala Cys Ser Asp Thr Phe Ile Asn Asp Met Met 115 120 125

Met Asn Phe Thr Ser Val Leu Leu Gly Gly Gly Cys Leu Ala Gly Ile 130 135 140

Phe Tyr Xaa Tyr Phe Lys Ile Leu Cys Cys Ile Cys Ser Ile Ser Ser 145 150 155 160

Ala Gln Gly Met Asn Lys Ala Leu Ser Thr Cys Ala Ser His Leu Ser 165 170 175

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<sup>&</sup>lt;211> 213

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Rattus sp

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> misc\_feature

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<sup>&</sup>lt;221> misc\_feature

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His Arg Leu Cys IIe Leu Leu Leu Leu Ser Trp Val Val Ser Ile
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Gln Leu Thr Cys Ser Asp Asn Phe Pro Ser His Leu Thr Met His Leu 115 120 125

Val Pro Val Ile Phe Ala Ala Ile Ser Leu Ser Gly Ile Leu Tyr Ser 130 135 140

Tyr Phe Lys Ile Val Ser Ser Ile Arg Ser Met Ser Ser Val Gln Gly
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Lys Tyr Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ser Ile Val Ser 165 170 175

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Ala	Tyr 50	Asp	Arg	Phe	Val	Ala 55	Ile	Cys	Asn	Pro	Leu 60	Leu	Tyr	Ser	Thr	
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Gly	Gly	Phe	Leu	Asn 85	Ala	Ser	Ser	Phe	Thr 90	Leu	Ser	Phe	Phe	Ser 95	Leu	
Ser	Phe	Cys	Gly 100	Pro	Asn	Arg	Ile	Asn 105	His	Phe	Tyr	Cys	Asp 110	Phe	Ala	
Pro	Leu	Val 115	Glu	Leu	Ser	Cys	Ser 120	Asp	Val	Ser	Val	Pro 125	Asp	Ala	Val	
Thr	Ser 130	Phe	Ser	Ala	Ala	Ser 135	Val	Thr	Met	Leu	Thr 140	Val	Phe	Ile	Ile	
Ala 145	Ile	Ser	Туr	Thr	Tyr 150	Ile	Leu	Ile	Thr	Ile 155	Leu	Lys	Met	Arg	Ser 160	
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Leu Pro Ser Leu Leu Ile Ser Lys Leu Asp Phe Cys Gly Pro Asn Arg
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Ile Asn His Phe Phe Cys Asp Leu Pro Pro Leu Ile Gln Leu Ser Cys

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45

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120

180

240

300

360

420

480

481

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Phe Ser Thr Cys Gly Ser His Leu Ala Val Val Thr Ile Tyr Tyr Gly
115 120 125

Thr Met Ile Ser Met Tyr Val Gly Pro Asn Ala His Leu Ser Pro Glu 130 135 140

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Phe Leu Cys Val Ser Val Asn Met Asp Asn Phe Leu Leu Ala Val Met 35 40 45

Ala Tyr Asp Arg Phe Val Ala Ile Cys His Pro Leu Tyr Tyr Thr Thr 50 55 60

Lys Met Thr His Gln Leu Cys Val Leu Leu Val Ser Gly Ser Xaa Xaa 65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Val Ile Met Val Thr Pro Phe Val Cys Ile 130 135 140

Leu Ile Ser Tyr Ile Tyr Ile Thr Asn Ala Val Leu Arg Val Ser Ser 145 150 155 160

Phe Arg Gly Gly Trp Lys Ala Phe Ser Thr Cys Gly Ser His Leu Ala 165 170 175

Val Val Cys Leu Phe Tyr Gly Thr Ile Ile Ala Val Tyr Phe Asn Pro 180 185 190

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Thr Val Val Thr Pro Met Leu 210 215

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646

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Phe Leu Cys Val Ser Val Asn Met Asp Asn Phe Leu Leu Ala Val Met 35 40 45

Ala Tyr Asp Arg Phe Val Ala Ile Cys His Pro Leu Tyr Tyr Thr Thr 50 55 60

Pro Met Thr His Gln Leu Cys Val Leu Leu Val Ser Gly Ser Xaa Xaa 65 70 75 80

Xaa Xaa Xaa Xaa Xaa Val Ile Met Val Thr Pro Phe Val Cys Ile 130 135 140

Leu Ile Ser Tyr Ile Tyr Ile Thr Asn Ala Val Leu Arg Val Ser Ser 145 150 155 160

Phe Arg Gly Gly Trp Lys Ala Phe Ser Thr Cys Gly Ser His Leu Ala 165 170 175

Val Val Cys Leu Phe Tyr Gly Thr Ile Ile Ala Val Tyr Phe Asn Pro 180 185 190

Val Ser Ser His Ser Ser Glu Lys Asp Thr Ala Ala Thr Val Leu Tyr 195 200 205

Thr Val Val Thr Pro Met Leu 210 215

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gctccgaatg cactctgcgg	aggggagtca	gaaggcccta	gccacatgct	cctctcacct	360
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Ile Gln Thr Ser Leu Thr Leu Gln Phe Pro Tyr Cys Gly Ser Arg Lys

Ile Ser His Phe Phe Cys Glu Val Pro Ser Leu Leu Xaa Xaa Ala Cys 55

Ala Asp Thr Glu Ala Tyr Glu Gln Val Leu Phe Val Thr Gly Val Val

Val Leu Leu Val Pro Ile Thr Phe Ile Thr Ala Ser Tyr Ala Leu Ile 85 95

Leu Ala Ala Val Leu Arg Met His Ser Ala Glu Gly Ser Gln Lys Ala 100 110

Leu Ala Thr Cys Ser Ser His Leu Thr Val Val Asn Leu Phe Tyr Gly 115 Pro Leu Val Tyr Thr Tyr Met Leu Pro Ala Ser Tyr His Ser Pro Gly 135 Gln Asp Asp Ile Val Ser Val Phe Tyr Thr Val Leu Thr Pro Met Leu 150 155 <210> 29 <211> 481 <212> DNA <213> Rattus sp. <220> <221> misc\_feature <223> Clone: J16 <400> 29 catctgtagg cctcttcact atcctaccct catgacccag acactgtgtg ccaagattgc 60 cactggttgc tggttgggag gcttggctgg gccagtggta gaaatttcct tggtgtctcg 120 tctccttttt tgtggcccca atcacattca acacatcttt tgtgatttcc cacctgtgct 180 gagcttggct tgtactgata catcagtgaa tgtcctggta gattttatta taaacctctg 240 caagatectg gecacettee tgetgatect gagetectae ttgeagataa teegeacagt 300 gctcaagatt ccttcagctg caggcaagaa gaaagcattc tcgacttgtg cctcccatct 360 cactgtggtt ctcatcttct atgggagcat ccttttcatg tatgtgcggc tgaagaagac 420 ttactccctt gactacgaca gagccttggc agtagtctac tccgtggtta cccctttcct 480 g 481 <210> 30 <211> 160 <212> PRT <213> Rattus sp. <220> <221> misc\_feature <223> Clone: J16 <400> 30

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Ala Lys Ile Ala Thr Gly Cys Trp Leu Gly Gly Leu Ala Gly Pro Val 20 25 30

Val	Glu	Ile 35	Ser	Leu	Val	Ser	Arg 40	Leu	Leu	Phe	Сув	Gly 45	Pro	Asn	His		. •		•	
Ile	Gln 50	His	Ile	Phe	Cys	Asp 55	Phe	Pro	Pro	Val	Leu 60	Ser	Leu	Ala	Cys					
Thr 65	Asp	Thr	Ser	Val	Asn 70	Val	Leu	Val	Asp	Phe 75	Ile	Ile	Asn	Leu	Cys 80					
Lys	Ile	Leu	Ala	Thr 85	Phe	Leu	Leu	Ile	Leu 90	Ser	Ser	Tyr	Leu	Gln 95	Ile					
Ile	Arg	Thr	Val 100	Leu	Lys	Ile	Pro	Ser 105	Ala	Ala	Gly	Lys	Lys 110	Lys	Ala					
Phe	Ser	Thr 115	Cys	Ala	Ser	His	Leu 120	Thr	Val	Val	Leu	Ile 125	Phe	Tyr	Gly					
Ser	Ile 130	Leu	Phe	Met	Tyr	Val 135	Arg	Leu	Lys	Lys	Thr 140	Tyr	Ser	Leu	Asp					
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														caag			420			
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Val Asp His Phe Phe Cys Asp Phe Ala Pro Xaa Xaa Glu Leu Ser Cys
Ser Asp Val Ser Val Ser Val Val Val Met Ser Phe Ser Ala Gly Ser
Val Thr Met Ile Thr Val Phe Ile Ile Ala Ile Ser Tyr Ser Tyr Ile
Leu Ile Thr Ile Leu Lys Met Ser Ser Thr Glu Gly Arg His Lys Ala
Phe Ser Thr Cys Thr Ser His Leu Thr Ala Val Thr Leu Tyr Tyr Gly
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Thr Ile Thr Phe Ile Tyr Val Met Pro Lys Ser Thr Tyr Ser Thr Asp
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Gln Asn Lys Val Val Ser Val Phe Tyr Met Val Val Ile Pro Met Leu
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a	ctgact	ttc	agcacaaaaa	ctgaaatccc	tcactttttc	tgtgagctgg	ctcatatcat	180
C	aaactt	cacc	tgttccgata	attttatcaa	ctatctgctg	atatacacag	agtctgtctt	240
a	ttttt	ggt	gttcatattg	tagggatcat	tttgtcttat	atttacactg	tatcctcagt	300
t	ttaaga	aatg	tcattattgg	gaggaatgta	taaagccttt	tcaacatgtg	gatctcattt	360
g	tcggtt	gtc	tctgttttat	ggcacaggtt	ttggggtaca	cataagctct	ccacttactg	420
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Phe His Ile Leu Met Val Leu Ile Leu Thr Phe Ser Thr Lys Thr Glu

Ile Pro His Phe Phe Cys Glu Leu Ala His Ile Ile Lys Leu Thr Cys

Ser Asp Asn Phe Ile Asn Tyr Leu Leu Ile Tyr Thr Glu Ser Val Leu

Phe Phe Gly Val His Ile Val Gly Ile Ile Leu Ser Tyr Ile Tyr Thr 85

Val Ser Ser Val Leu Arg Met Ser Leu Leu Gly Gly Met Tyr Lys Ala

Phe Ser Thr Cys Gly Ser His Leu Ser Val Val Ser Val Leu Trp His 115

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5

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Ile Pro Leu Cys Phe Thr Ile Leu Pro Leu Cys Gly Pro Tyr Val Val
Asp Tyr Leu Phe Cys Glu Leu Pro Ile Leu Leu His Leu Phe Cys Thr
Asp Thr Ser Leu Leu Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
Xaa Xaa Xaa Pro Phe Leu Leu Ile Val Leu Ser Tyr Leu Arg Ile
Leu Val Ala Val Ile Arg Ile Asp Ser Ala Glu Gly Arg Lys Lys Ala
            100
                               105
Phe Ser Thr Cys Ala Ser His Leu Ala Val Val Thr Ile Tyr Tyr Gly
                            120
Thr Gly Leu Ile Arg Tyr Leu Arg Pro Lys Ser Leu Tyr Ser Ala Glu
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Gly Asp Arg Leu Ile Ser Val Phe Tyr Ala Val Ile Gly Pro Ala Leu
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misc\_feature

n = any

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<210> 47
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Lys Ile Val Ser Ser Ile
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Arg Ile Val Ser Ser Ile

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His Ile Thr Cys Ala Val
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His Ile Thr Trp Ala Val
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Leu Ser Lys Glu Asp Cys Ser Gly Phe Ser Asp Val His Cys Gly Tyr
                            . 10
Ser Asp Ala
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<212> PRT
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Leu Xaa Xaa Pro Met Tyr Xaa Phe Leu
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<223> K or M or T
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<223> F or L
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Leu Xaa Xaa Pro Met Tyr Xaa Phe Leu
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Met Xaa Tyr Asp Arg Xaa Xaa Ala Ile Cys
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 Met Xaa Tyr Asp Arg Xaa Xaa Ala Ile Cys
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Asp Arg Xaa Xaa Ala Ile Cys
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<223> A or I or S or V
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<223> A or G or S
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Xaa Xaa Phe Ser Thr Cys Xaa Ser His
                  5
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Phe Ser Thr Cys Xaa Ser His
                  5
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                 5
  <210> 66
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  <220>
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  <222> (2)..(2)
<223> M or L or V
  <220>
  <221> X
<222> (3)..(3)
<223> F or L or V
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  <221> X
  <222> (6)..(6)
  <223> F OR I
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Pro Xaa Xaa Asn Pro Xaa Ile Tyr Xaa Leu Arg Asn
<210> 67
<211> 8
<212> PRT
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\langle 223 \rangle x = \overline{any}
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Pro Xaa Xaa Asn Pro Xaa Ile Tyr
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<222> (3)..(3)
<223> F or L or V
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<221> x
<222> (6)..(6)
<223> F or I
<400> 68
Pro Xaa Xaa Asn Pro Xaa Ile Tyr
                 5
<210> 69
<211> 9
<212> PRT
<213> Artificial - motif
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 Asn Pro Xaa Ile Tyr Xaa Leu Arg Asn
             5
 <210> 70
 <211> 9
 <212> PRT
 <213> Artificial - motif
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 <221> X
<222> (3)..(3)
<223> F or I
 <220>
 <221> X
<222> (6)..(6)
 <223> C or S or T
 <400> 70
 Asn Pro Xaa Ile Tyr Xaa Leu Arg Asn
<210> 71
<211> 333
<212> PRT
 <213> Rattus sp.
 <220>
 <221> misc_feature
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· <400> 71
Met Asp Ser Ser Asn Arg Thr Arg Val Ser Glu Phe Leu Leu Gly
 Phe Val Glu Asn Lys Asp Leu Gln Pro Leu Ile Tyr Gly Leu Phe Leu
                                  25
 Ser Met Tyr Leu Val Thr Val Ile Gly Asn Ile Ser Ile Ile Val Ala
        35
 Ile Ile Ser Asp Pro Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser
                          55
Asn Leu Ser Phe Val Asp Ile Cys Phe Ile Ser Thr Thr Val Pro Lys
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<220>

65 70 75 80

Met Leu Val Asn Ile Gln Thr Gln Asn Asn Val Ile Thr Tyr Ala Gly
85 90 95

Cys Ile Thr Gln Ile Tyr Phe Phe Leu Leu Phe Val Glu Leu Asp Asn 100 105 110

Phe Leu Leu Thr Ile Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His 115 120 125

Pro Met His Tyr Thr Val Ile Met Asn Tyr Lys Leu Cys Gly Phe Leu 130 135 140

Val Leu Val Ser Trp Ile Val Ser Val Leu His Ala Leu Phe Gln Ser 145 150 155 160

Leu Met Met Leu Ala Leu Pro Phe Cys Thr His Leu Glu Ile Pro His 165 170 175

Tyr Phe Cys Glu Pro Asn Gln Val Ile Gln Leu Thr Cys Ser Asp Ala 180 185 190

Phe Leu Asn Asp Leu Val Ile Tyr Phe Thr Leu Val Leu Leu Ala Thr 195 200 205

Val Pro Leu Ala Gly Ile Phe Tyr Ser Tyr Phe Lys Ile Val Ser Ser 210 215 220

Ile Cys Ala Ile Ser Ser Val His Gly Lys Tyr Lys Ala Phe Ser Thr 225 230 235 240

Cys Ala Ser His Leu Ser Val Val Ser Leu Phe Tyr Cys Thr Gly Leu 245 250 255

Gly Val Tyr Leu Ser Ser Ala Ala Asn Asn Ser Ser Gln Ala Ser Ala 260 265 270

Thr Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Val Asn Pro Phe 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ser Val Leu Lys Lys Thr 290 295 300

Leu Cys Glu Glu Val Ile Arg Ser Pro Pro Ser Leu Leu His Phe Phe 305 310 315 320

Leu Val Leu Cys His Leu Pro Cys Phe Ile Phe Cys Tyr 325

<210> 72

<211> 313

<212> PRT

<213> Rattus sp.

<220>

<221> misc\_feature

<400> 72

Met Ser Ser Thr Asn Gln Ser Ser Val Thr Glu Phe Leu Leu Gly

1 10 15

Leu Ser Arg Gln Pro Gln Gln Gln Leu Leu Phe Leu Phe Leu 20 25 30

Ile Met Tyr Leu Ala Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala 35 40 45

Ile Gly Thr Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser 50 55 60

Asn Leu Ser Phe Val Asp Val Cys Phe Ser Ser Thr Thr Val Pro Lys 65 70 75 80

Val Leu Ala Asn His Ile Leu Gly Ser Gln Ala Ile Ser Phe Ser Gly
85 90 95

Cys Leu Thr Gln Leu Tyr Phe Leu Ala Val Phe Gly Asn Met Asp Asn 100 105 110

Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Val Ala Ile Cys His 115 120 125

Pro Leu His Tyr Thr Thr Lys Met Thr Arg Gln Leu Cys Val Leu Leu 130 135 140

Val Val Gly Ser Trp Val Val Ala Asn Met Asn Cys Leu Leu His Ile 145 150 155 160

Leu Leu Met Ala Arg Leu Ser Phe Cys Ala Asp Asn Met Ile Pro His 165 170 175

Phe Phe Cys Asp Gly Thr Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr 180 185 190

His Leu Asn Glu Leu Met Ile Leu Thr Glu Gly Ala Val Val Met Val 195 200 205

Thr Pro Phe Val Cys Ile Leu Ile Ser Tyr Ile His Ile Thr Cys Ala 210 215 220

Val Leu Arg Val Ser Ser Pro Arg Gly Gly Trp Lys Ser Phe Ser Thr 225 230 235 240

Cys Gly Ser His Leu Ala Val Val Cys Leu Phe Tyr Gly Thr Val Ile 245 250 255

Ala Val Tyr Phe Asn Pro Ser Ser Ser His Leu Ala Gly Arg Asp Met 260 265 270

Ala Ala Ala Val Met Tyr Ala Val Val Thr Pro Met Leu Asn Pro Phe

Ile Tyr Ser Leu Arg Asn Ser Asp Met Lys Ala Ala Leu Arg Lys Val 290 295 300

285

Leu Ala Met Arg Phe Pro Ser Lys Gln 305 310

<210> 73

<211> 311

<212> PRT

<213> Rattus sp

<220>

<221> misc feature

<223> Clone: F6

<400> 73

Met Ala Trp Ser Thr Gly Gln Asn Leu Ser Thr Pro Gly Pro Phe Ile 5 10 15

Leu Leu Gly Phe Pro Gly Pro Arg Ser Met Arg Ile Gly Leu Phe Leu 20 25 30

Leu Phe Leu Val Met Tyr Leu Leu Thr Val Val Gly Asn Leu Ala Ile 35 40 45

Ile Ser Leu Val Gly Ala His Arg Cys Leu Gln Thr Pro Met Tyr Phe 50 55 60

Phe Leu Cys Asn Leu Ser Phe Leu Glu Ile Trp Phe Thr Thr Ala Cys 65 70 75 80

Val Pro Lys Thr Leu Ala Thr Phe Ala Pro Arg Gly Gly Val Ile Ser 85 90 95

Leu Ala Gly Cys Ala Thr Gln Met Tyr Phe Val Phe Ser Leu Gly Cys
100 105 110

Thr Glu Tyr Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Leu Ala 115 120 125

Ile Cys Leu Pro Leu Arg Tyr Gly Gly Ile Met Thr Pro Gly Leu Ala 130 135 140

Met Arg Leu Ala Leu Gly Ser Trp Leu Cys Gly Phe Ser Ala Ile Thr 145 150 155 160

Val Pro Ala Thr Leu Ile Ala Arg Leu Ser Phe Cys Gly Ser Arg Val 165 170 175

Ile Asn His Phe Phe Cys Asp Ile Ser Pro Trp Ile Val Leu Ser Cys 180 185 190

Thr Asp Thr Gln Val Val Glu Leu Val Ser Phe Gly Ile Ala Phe Cys

Val Ile Leu Gly Ser Cys Gly Ile Thr Leu Val Ser Tyr Ala Tyr Ile 210 215 220

Ile Thr Thr Ile Ile Lys Ile Pro Ser Ala Arg Gly Arg His Arg Ala 225 230 235 240

Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Leu Ile Trp Tyr Gly
245 250 255

Ser Thr Ile Phe Leu His Val Arg Thr Ser Val Glu Ser Ser Leu Asp 260 265 270

Leu Thr Lys Ala Ile Thr Val Leu Asn Thr Ile Val Thr Pro Val Leu 275 280 285

Asn Pro Phe Ile Tyr Thr Leu Arg Asn Lys Asp Val Lys Glu Ala Leu 290 295 300

Arg Arg Thr Val Lys Gly Lys 305 310

<210> 74

<211> 317

<212> PRT

<213> Rattus sp

<220>

<221> misc\_feature

<223> Clone: F12

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Met Glu Ser Gly Asn Ser Thr Arg Arg Phe Ser Ser Phe Phe Leu Leu 1 5 10 15

Gly Phe Thr Glu Asn Pro Gln Leu His Phe Leu Ile Phe Ala Leu Phe 20 25 30

Leu Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Met 35 40 45

Ala Ile Ile Thr Gln Ser His Leu His Thr Pro Met Tyr Phe Phe Leu 50 55 60

Ala Asn Leu Ser Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Ile Pro 65 70 75 80

Lys Met Leu Val Asn Ile Tyr Thr Gln Ser Lys Ser Ile Thr Tyr Glu 85 90 95

Asp Cys Ile Ser Gln Met Cys Val Phe Leu Val Phe Ala Glu Leu Gly
100 105 110

Asn Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Asn Cys

His Pro Leu Cys Tyr Thr Val Ile Val Asn His Arg Leu Cys Ile Leu 130 135 140

Leu Leu Leu Ser Trp Val Ile Ser Ile Phe His Ala Phe Ile Gln 145 150 155 160

Ser Leu Ile Val Leu Gln Leu Thr Phe Cys Gly Asp Val Lys Ile Pro 165 170 175

His Phe Phe Cys Glu Leu Asn Gln Leu Ser Gln Leu Thr Cys Ser Asp 180 185 190

Asn Phe Pro Ser His Leu Ile Met Asn Leu Val Pro Val Met Leu Ala 195 200 205

Ala Ile Ser Phe Ser Gly Ile Leu Tyr Ser Tyr Phe Lys Ile Val Ser 210 215 220

Ser Ile His Ser Ile Ser Thr Val Gln Gly Lys Tyr Lys Ala Phe Ser 225 230 235 240

Thr Cys Ala Ser His Leu Ser Ile Val Ser Leu Phe Tyr Ser Thr Gly
245 250 255

Leu Gly Val Tyr Val Ser Ser Ala Val Val Gln Ser Ser His Ser Ala 260 265 270

Ala Ser Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro 275 280 . 285

Phe Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Arg Ala Leu Glu Arg 290 295 300

Leu Leu Glu Gly Asn Cys Lys Val His His Trp Thr Gly 305 310 315

<210> 75

<211> 310

<212> PRT

<213> Rattus sp

<220>

<221> misc\_feature

<223> Clone: I3

<400> 75

Met Asn Asn Gln Thr Phe Ile Thr Gln Phe Leu Leu Gly Leu Pro 1 5 10 15

Ile Pro Glu Glu His Gln His Leu Phe Tyr Ala Leu Phe Leu Val Met
20 25 30

Tyr Leu Thr Thr Ile Leu Gly Asn Leu Leu Ile Ile Val Leu Val Gln

Leu Asp Ser Gln Leu His Thr Pro Met Tyr Leu Phe Leu Ser Asn Leu Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys Leu Leu Gln Asn Met Arg Ser Gln Asp Thr Ser Ile Pro Tyr Gly Gly Cys Leu Ala Gln Thr Tyr Phe Phe Met Val Phe Gly Asp Met Glu Ser Phe Leu Leu Val Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Leu 115 His Tyr Thr Ser Ile Met Ser Pro Lys Leu Cys Thr Cys Leu Val Leu 135 Leu Leu Trp Met Leu Thr Thr Ser His Ala Met Met His Thr Leu Leu Ala Ala Arg Leu Ser Phe Cys Glu Asn Asn Val Val Leu Asn Phe Phe 170 Cys Asp Leu Phe Val Leu Leu Lys Leu Ala Cys Ser Asp Thr Tyr Ile Asn Glu Leu Met Ile Phe Ile Met Ser Thr Leu Leu Ile Ile Ile Pro 200 Phe Phe Leu Ile Val Met Ser Tyr Ala Arg Ile Ile Ser Ser Ile Leu 215 Lys Val Pro Ser Thr Gln Gly Ile Cys Lys Val Phe Ser Thr Cys Gly 230 235 Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Ile Ile Gly Leu 245 Tyr Leu Cys Pro Ala Gly Asn Asn Ser Thr Val Lys Glu Met Val Met Ala Met Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe Ile Tyr 275 Ser Leu Arg Asn Arg Asp Met Lys Arg Ala Leu Ile Arg Val Ile Cys

Ser Met Lys Ile Thr Leu 305 310

<210> 76

<211> 327

<212> PRT

<213> Rattus sp

<220>

<221> misc\_feature

<223> Clone: I7

<400> 76

Met Glu Arg Arg Asn His Ser Gly Arg Val Ser Glu Phe Val Leu Leu 1 5 10 15

Gly Phe Pro Ala Pro Ala Pro Leu Arg Val Leu Leu Phe Phe Leu Ser 20 25 30

Leu Leu Asp Tyr Val Leu Val Leu Thr Glu Asn Met Leu Ile Ile 35 40 45

Ala Ile Arg Asn His Pro Thr Leu His Lys Pro Met Tyr Phe Phe Leu 50 60

Ala Asn Met Ser Phe Leu Glu Ile Trp Tyr Val Thr Val Thr Ile Pro 65 70 75 80

Lys Met Leu Ala Gly Phe Ile Gly Ser Lys Glu Asn His Gly Gln Leu 85 90 95

Ile Ser Phe Glu Ala Cys Met Thr Gln Leu Tyr Phe Phe Leu Gly Leu 100 105 110

Gly Cys Thr Glu Cys Val Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr 115 120 125

Val Ala Ile Cys His Pro Leu His Tyr Pro Val Ile Val Ser Ser Arg

Leu Cys Val Gln Met Ala Ala Gly Ser Trp Ala Gly Gly Phe Gly Ile 145 150 155 160

Ser Met Val Lys Val Phe Leu Ile Ser Arg Leu Ser Tyr Cys Gly Pro 165 170 175

Asn Thr Ile Asn His Phe Phe Cys Asp Val Ser Pro Leu Leu Asn Leu 180 185 190

Ser Cys Thr Asp Met Ser Thr Ala Glu Leu Thr Asp Phe Val Leu Ala 195 200 205

Ile Phe Ile Leu Leu Gly Pro Leu Ser Val Thr Gly Ala Ser Tyr Met 210 215 220

Ala Ile Thr Gly Ala Val Met Arg Ile Pro Ser Ala Ala Gly Arg His 225 230 235 240

Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Ile Ile Phe 245 250 255

Tyr Ala Ala Ser Ile Phe Ile Tyr Ala Arg Pro Lys Ala Leu Ser Ala

Phe Asp Thr Asn Lys Leu Val Ser Val Leu Tyr Ala Val Ile Val Pro 275 280 285

Leu Phe Asn Pro Ile Ile Tyr Cys Leu Arg Asn Gln Asp Val Lys Arg 290 295 300

Ala Leu Arg Arg Thr Leu His Leu Ala Gln Asp Gln Glu Ala Asn Thr 305 310 315 320

Asn Lys Gly Ser Lys Ile Gly 325

<210> 77

<211> 312

<212> PRT

<213> Rattus sp

<220>

<221> misc\_feature

<223> Clone: I8

<400> 77

Met Asn Asn Lys Thr Val Ile Thr His Phe Leu Leu Gly Leu Pro 1 5 10 15

Ile Pro Pro Glu His Gln Gln Leu Phe Phe Ala Leu Phe Leu Ile Met 20 25 30

Tyr Leu Thr Thr Phe Leu Gly Asn Leu Leu Ile Val Val Leu Val Gln 35 40 45

Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser Asn Leu 50 55 60

Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Met Leu Lys Leu Leu 65 70 75 80

Gln Asn Ile Gln Ser Gln Val Pro Ser Ile Ser Tyr Ala Gly Cys Leu 85 90 95

Thr Gln Ile Phe Phe Phe Leu Leu Phe Gly Tyr Leu Gly Asn Phe Leu 100 105 110

Leu Val Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Leu 115 120 125

His Tyr Thr Asn Ile Met Ser His Lys Leu Cys Thr Cys Leu Leu Leu 130 135 140

Val Phe Trp Ile Met Thr Ser Ser His Ala Met Met His Thr Leu Leu 145 150 155 160

Ala Ala Arg Leu Ser Phe Cys Glu Asn Asn Val Leu Leu Asn Phe Phe

Cys Asp Leu Phe Val Leu Leu Lys Leu Ala Cys Ser Asp Thr Tyr Val

Asn Glu Leu Met Ile His Ile Met Gly Val Ile Ile Ile Val Ile Pro 195 200 205

Phe Val Leu Ile Val Ile Ser Tyr Ala Lys Ile Ile Ser Ser Ile Leu 210 215 220

Lys Val Pro Ser Thr Gln Ser Ile His Lys Val Phe Ser Thr Cys Gly
225 230 235 240

Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Ile Ile Gly Leu 245 250 255

Tyr Leu Cys Pro Ser Gly Asp Asn Phe Ser Leu Lys Gly Ser Ala Met 260 265 270

Ala Met Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe Ile Tyr 275 280 285

Ser Leu Arg Asn Arg Asp Met Lys Gln Ala Leu Ile Arg Val Thr Cys 290 295 300

Ser Lys Lys Ile Ser Leu Pro Trp 305 310

<210> 78

<211> 314

<212> PRT

<213> Rattus sp

<220>

<221> misc\_feature

<223> Clone: I9

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Met Thr Arg Arg Asn Gln Thr Ala Ile Ser Gln Phe Phe Leu Leu Gly
1 5 10 15

Leu Pro Phe Pro Pro Glu Tyr Gln His Leu Phe Tyr Ala Leu Phe Leu 20 25 30

Ala Met Tyr Leu Thr Thr Leu Leu Gly Asn Leu Ile Ile Ile Leu 35 40 45

Ile Leu Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser 50 55 60

Asn Leu Ser Phe Ala Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys 70 75 80

Leu Leu Gln Asn Met Gln Ser Gln Val Pro Ser Ile Pro Tyr Ala Gly

Cys Leu Ala Gln Ile Tyr Phe Phe Leu Phe Phe Gly Asp Leu Gly Asn 100 105 110

Phe Leu Leu Val Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe 115 120 125

Pro Leu His Tyr Met Ser Ile Met Ser Pro Lys Leu Cys Val Ser Leu 130 135 140

Val Val Leu Ser Trp Val Leu Thr Thr Phe His Ala Met Leu His Thr 145 150 155 160

Leu Leu Met Ala Arg Leu Ser Phe Cys Glu Asp Ser Val Ile Pro His 165 170 175

Tyr Phe Cys Asp Met Ser Thr Leu Leu Lys Val Ala Cys Ser Asp Thr 180 185 190

His Asp Asn Glu Leu Ala Ile Phe Ile Leu Gly Gly Pro Ile Val Val 195 200 205

Leu Pro Phe Leu Leu Ile Ile Val Ser Tyr Ala Arg Ile Val Ser Ser 210 215 220

Ile Phe Lys Val Pro Ser Ser Gln Ser Ile His Lys Ala Phe Ser Thr 225 230 235 240

Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Val Ile 245 250 255

Gly Leu Tyr Leu Cys Pro Ser Ala Asn Asn Ser Thr Val Lys Glu Thr 260 265 270

Val Met Ser Leu Met Tyr Thr Met Val Thr Pro Met Leu Asn Pro Phe 275 280 285

Ile Tyr Ser Leu Arg Asn Arg Asp Ile Lys Asp Ala Leu Glu Lys Ile 290 295 300

Met Cys Lys Gln Ile Pro Ser Phe Leu 305

<210> 79

<211> 312

<212> PRT

<213> Rattus sp

<220>

<221> misc\_feature <223> Clone: I14

<400> 79

Met Thr Gly Asn Asn Gln Thr Leu Ile Leu Glu Phe Leu Leu Gly

1

Leu Pro Ile Pro Ser Glu Tyr His Leu Leu Phe Tyr Ala Leu Phe Leu 20 25 30

Ala Met Tyr Leu Thr Ile Ile Leu Gly Asn Leu Leu Ile Ile Val Leu 35 40 45

Val Arg Leu Asp Ser His Leu His Met Pro Met Tyr Leu Phe Leu Ser 50 55 60

Asn Leu Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys 70 75 80

Leu Leu Gln Asn Met Gln Ser Gln Val Pro Ser Ile Ser Tyr Thr Gly 85 90 95

Cys Leu Thr Gln Leu Tyr Phe Phe Met Val Phe Gly Asp Met Glu Ser

Phe Leu Leu Val Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe 115 120 125

Pro Leu Arg Tyr Thr Thr Ile Met Ser Thr Lys Phe Cys Ala Ser Leu 130 135 140

Val Leu Leu Trp Met Leu Thr Met Thr His Ala Leu Leu His Thr 145 150 155 160

Leu Leu Ile Ala Arg Leu Ser Phe Cys Glu Lys Asn Val Ile Leu His 165 170 175

Phe Phe Cys Asp Ile Ser Ala Leu Leu Lys Leu Ser Cys Ser Asp Ile 180 185 190

Tyr Val Asn Glu Leu Met Ile Tyr Ile Leu Gly Gly Leu Ile Ile 195 200 205

Ile Pro Phe Leu Leu Ile Val Met Ser Tyr Val Arg Ile Phe Phe Ser 210 215 220

Ile Leu Lys Phe Pro Ser Ile Gln Asp Ile Tyr Lys Val Phe Ser Thr 225 230 235 240

Cys Gly Ser His Leu Ser Val Val Thr Leu Phe Tyr Gly Thr Ile Phe 245 250 255

Gly Ile Tyr Leu Cys Pro Ser Gly Asn Asn Ser Thr Val Lys Glu Ile 260 265 270

Ala Met Ala Met Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe 275 280 285

Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Arg Ala Leu Ile Arg Val 290 295 300

Ile Cys Thr Lys Lys Ile Ser Leu

<210> 80

<211> 314

<212> PRT

<213> Rattus sp

<220>

<221> misc\_feature

<223> Clone: I15

<400> 80

Met Thr Glu Glu Asn Gln Thr Val Ile Ser Gln Phe Leu Leu Phe 1 5 10 15

Leu Pro Ile Pro Ser Glu His Gln His Val Phe Tyr Ala Leu Phe Leu 20 25 30

Ser Met Tyr Leu Thr Thr Val Leu Gly Asn Leu Ile Ile Ile Leu 35 40 45

Ile His Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser 50 55 60

Asn Leu Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys 65 70 75 80

Leu Leu Gln Asn Met Gln Ser Gln Val Pro Ser Ile Pro Phe Ala Gly
85 90 95

Cys Leu Thr Gln Leu Tyr Phe Tyr Leu Tyr Phe Ala Asp Leu Glu Ser 100 105 110

Phe Leu Leu Val Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe 115 120 125

Pro Leu His Tyr Met Ser Ile Met Ser Pro Lys Leu Cys Val Ser Leu 130 135 140

Val Val Leu Ser Trp Val Leu Thr Thr Phe His Ala Met Leu His Thr 145 150 155 160

Leu Leu Met Ala Arg Leu Ser Phe Cys Ala Asp Asn Met Ile Pro His 165 170 175

Phe Phe Cys Asp Ile Ser Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr 180 185 190

His Val Asn Glu Leu Val Ile Phe Val Met Gly Gly Leu Val Ile Val 195 200 205

Ile Pro Phe Val Leu Ile Ile Val Ser Tyr Ala Arg Val Val Ala Ser 210 215 220

Ile Leu Lys Val Pro Ser Val Arg Gly Ile His Lys Ile Phe Ser Thr

Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Ile Ile 245 250 255

Gly Leu Tyr Leu Cys Pro Ser Ala Asn Asn Ser Thr Val Lys Glu Thr 260 265 270

Val Met Ala Met Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe 275 280 285

Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Glu Ala Leu Ile Arg Val 290 295 300

Leu Cys Lys Lys Lys Ile Thr Phe Cys Leu 305 310

<210> 81

<211> 44

<212> PRT

<213> Rattus sp

<400> 81

Arg Val Asn Glu Val Val Ile Phe Ile Val Val Ser Leu Phe Leu Val 1 5 10 15

Leu Pro Phe Ala Leu Ile Ile Met Ser Tyr Val Arg Ile Val Ser Ser 20 25 30

Ile Leu Lys Val Pro Ser Ser Gln Gly Ile Tyr Lys
35 40

<210> 82

<211> 44

<212> PRT

<213> Kattus sp.

<400> 82

Phe Leu Asn Asp Leu Val Ile Tyr Phe Thr Leu Val Leu Leu Ala Thr

5 10 15

Val Pro Leu Ala Gly Ile Phe Tyr Ser Tyr Phe Lys Ile Val Ser Ser 20 25 30

Ile Cys Ala Ile Ser Ser Val His Gly Lys Tyr Lys
35 40

<210> 83

<211> 44

<212> PRT

<213> Rattus sp.

<400> 83

His Leu Asn Glu Leu Met Ile Leu Thr Glu Gly Ala Val Val Met Val

1

Thr Pro Phe Val Cys Ile Leu Ile Ser Tyr Ile His Ile Thr Cys Ala 20 25 30

Val Leu Arg Val Ser Ser Pro Arg Gly Gly Trp Lys
35 40

<210> 84

<211> 44

<212> PRT

<213> Rattus sp.

<400> 84

Gln Val Val Glu Leu Val Ser Phe Gly Ile Ala Phe Cys Val Ile His 1 5 10 15

Gly Ser Cys Gly Ile Thr Leu Val Ser Tyr Ala Tyr Ile Ile Thr Thr 20 25 30

Ile Ile Lys Ile Pro Ser Ala Arg Gly Arg His Arg
35 40

<210> 85

<211> 44

<212> PRT

<213> Rattus sp.

<400> 85

His Val Asn Glu Leu Val Ile Phe Val Met Gly Gly Ile Ile Leu Val 5 10 15

Ile Pro Phe Val Leu Ile Ile Val Ser Tyr Val Arg Ile Val Ser Ser 20 25 30

Ile Leu Lys Val Pro Ser Ala Arg Gly Ile Arg Lys
35 40

<210> 86

<211> 44

<212> PRT

<213> Rattus sp.

<400> 86

Phe Pro Ser His Leu Thr Met His Leu Val Pro Val Ile Leu Ala Ala 1 5 10 15

Ile Ser Leu Ser Gly Ile Leu Tyr Ser Tyr Phe Lys Ile Val Ser Ser 20 25 30

Ile Arg Ser Met Ser Ser Val Gln Gly Lys Tyr Lys
35 40

<210> 87

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<212> PRT
<213> Rattus sp.
<400> 87
Phe Pro Ser His Leu Ile Met Asn Leu Val Pro Val Met Leu Ala Ala
Ile Ser Phe Ser Gly Ile Leu Tyr Ser Tyr Phe Lys Ile Val Ser Ser
Ile His Ser Ile Ser Thr Val Gln Gly Lys Tyr Lys
<210> 88
<211>
       44
      PRT
<212>
<213> Rattus sp.
<400> 88
Phe Pro Ser His Leu Ile Met Asn Leu Val Pro Val Met Leu Ala Ala
Ile Ser Phe Ser Gly Ile Leu Tyr Ser Tyr Phe Lys Ile Val Ser Ser
                               25
Ile Arg Ser Val Ser Ser Val Lys Gly Lys Tyr Lys
                           40
<210> 89
<211>
       44
<212>
       PRT
<213> Rattus sp.
Phe Leu Asn Asp Val Ile Met Tyr Phe Ala Leu Val Leu Leu Ala Val
              5
Val Pro Leu Gly Ile Leu Tyr Ser Tyr Ser Lys Ile Val Ser Ser
                               25
Ile Arg Ala Ile Ser Thr Val Gln Gly Lys Tyr Lys
        35
<210> 90
<211> 44
<212> PRT
<213> Rattus sp.
<400> 90
His Glu Ile Glu Met Ile Ile Leu Val Leu Ala Ala Phe Asn Leu Ile
                5
```

<211> 44

1

Ser Ser Leu Leu Val Val Leu Val Ser Tyr Leu Phe Ile Leu Ile Ala 20 25 30

Ile Leu Arg Met Asn Ser Ala Glu Gly Arg Arg Lys 35 40

<210> 91 <211> 44

<212> PRT

<213> Rattus sp.

<400> 91

Tyr Ile Asn Glu Leu Met Ile Phe Ile Met Ser Thr Leu Leu Ile Ile 1 5 10 15

Ile Pro Phe Phe Leu Ile Val Met Ser Tyr Ala Arg Ile Ile Ser Ser 20 25 30

Ile Leu Lys Val Pro Ser Thr Gln Gly Ile Cys Lys
35 40

<210> 92

<211> 44

<212> PRT

<213> Rattus sp.

<400> 92

Ser Thr Ala Glu Leu Thr Asp Phe Val Leu Ala Ile Phe Ile Leu Leu 1 5 10 15

Gly Pro Leu Ser Val Thr Gly Ala Ser Tyr Met Ala Ile Thr Gly Ala 20 25 30

Val Met Arg Ile Pro Ser Ala Ala Gly Arg His Lys

<210> 93

<211> 44

<212> PRT

<213> Rattus sp.

<400> 93

Tyr Val Asn Glu Leu Met Ile His Ile Met Gly Val Ile Ile Ile Val

5 10 15

Ile Pro Phe Val Leu Ile Val Ile Ser Tyr Ala Lys Ile Ile Ser Ser 20 25 30

Ile Leu Lys Val Pro Ser Thr Gln Ser Ile His Lys

<210> 94

<211> 44

<212> PRT

<213> Rattus sp. <400> 94 His Asp Asn Glu Leu Ala Ile Phe Ile Leu Gly Gly Pro Ile Val Val Leu Pro Phe Leu Leu Ile Ile Val Ser Tyr Ala Arg Ile Val Ser Ser Ile Phe Lys Val Pro Ser Ser Gln Ser Ile His Lys <210> 95 <211> 44 <212> PRT <213> Rattus sp. <400> 95 His Leu Asn Glu Leu Met Ile Leu Thr Glu Gly Ala Val Val Met Val Thr Pro Phe Val Cys Ile Leu Ile Ser Tyr Ile His Ile Thr Trp Ala 25 Val Leu Arg Val Ser Ser Pro Arg Gly Gly Trp Lys <210> 96 -<211> 44 <212> PRT <213> Rattus sp. <400> 96 Phe Pro Ser His Leu Ile Met Asn Leu Val Pro Val Met Leu Gly Ala Ile Ser Leu Ser Gly Ile Leu Tyr Ser Tyr Phe Lys Ile Val Ser Ser 25 Val Arg Ser Ile Ser Ser Val Gln Gly Lys His Lys <210> 97

<211> 44

<212> PRT

<213> Rattus sp.

<400> 97

Tyr Val Asn Glu Leu Met Ile Tyr Ile Leu Gly Gly Leu Ile Ile

Ile Pro Phe Leu Leu Ile Val Met Ser Tyr Val Arg Ile Phe Phe Ser 25 30

Ile Leu Lys Phe Pro Ser Ile Glx Asp Ile Tyr Lys
35 40

<210> 98

<211> 44

<212> PRT

<213> Rattus sp.

<400> 98

Ile Pro Phe Val Leu Ile Ile Val Ser Tyr Ala Arg Val Val Ala Ser 20 25 30

Ile Leu Lys Val Pro Ser Val Arg Gly Ile His Lys 35